

CNO and Secretary of the Navy Environmental Awards

Recycling: Non-Industrial Installation

Introduction

The Naval Air Engineering Station (NAVAIRENGSTA) is the Shore Station Management component of the Naval Air Warfare Center Aircraft Division Lakehurst.

Collectively known as Navy Lakehurst, the organization's mission is Aircraft Platform Interface, which is the safe effective operation of aircraft to, from, and on all aviation platforms. To accomplish this mission, Navy Lakehurst currently employs over 1900 civilian employees, consisting primarily of engineers, technicians, logisticians, acquisition experts and manufacturing support specialists. In addition, Navy Lakehurst has approximately 230 military personnel. The

Station encompasses 7430 acres and contains 446 structures and 328 buildings. Facilities include two 5,000 foot operational runways, a 12,000 foot runway equipped with catapult and arresting gear and five test tracks.



The Station and the surrounding area are located within the Pinelands National Reserve, the most extensive undeveloped land tract of the Middle Atlantic Seaboard. The Pinelands consist of a delicately balanced ecosystem can covers the largest drinking water aquifer in the Northeast.

Background

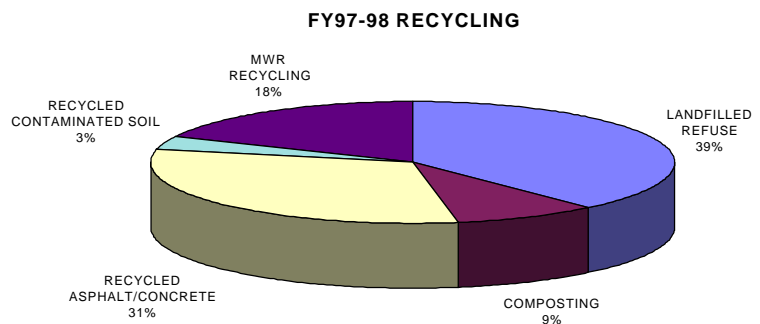
Located in New Jersey, Navy Lakehurst operates under some of the strictest pollution standards in the nation. Over the past decade there have been numerous closures of landfills and incinerators that could not meet stringent environmental standards. With the elimination of these unsafe disposal facilities, a shortage of environmentally acceptable local facilities has arisen. As a result, Navy Lakehurst has adopted a proactive approach in the development of environmentally acceptable solid waste solutions that encourage source reduction and recycling and minimize the volume of solid waste landfilled off Station.

Recycling at Navy Lakehurst is managed under the Station's Solid Waste Program in accordance with the provisions of the Solid Waste Management Plan. The plan, prepared and maintained by the Environmental Branch, summarizes existing solid waste practices at the Station and outlines strategies for improvement in the areas of recycling, composting, source reduction and reuse, construction and demolition waste management, and education and awareness. As specified in the plan, all saleable recyclable materials (i.e., office paper, aluminum cans, scrap metal, cardboard...) are managed under the direction of the Morale, Welfare and Recreation (MWR) Recycling Program. This program is a Qualified Recycling Program and is operated in accordance with NAECINST 5090.1. The entire recycling operation is run by five military personnel who are responsible for all aspects of the program including program management, material collection, material processing/sorting, and education and awareness.

Program Summary

The objective of the Recycling Program at the NAVAIRENGSTA is to preserve natural resources while reducing the volume of landfilled waste through collection and sale of recyclable materials. Additionally, the Recycling Program serves to reduce disposal costs and improve the quality of life at the Station through use of program generated revenues. Finally, the goal for the Recycling Program, as set by the State of New Jersey, is to achieve a recycling rate of 60 percent of the total waste stream by the year 2000.

Over the past two fiscal years, the Recycling Program at the NAVAIRENGSTA has exceeded all its goals and objectives. During the FY97-98 period, over 61 percent of the waste generated at Navy Lakehurst was recycled, **exceeding the New Jersey State goal of 60 percent two years ahead of schedule.** In addition, the program was extremely successful in reducing the volume of material sent to the landfill and in generating substantial cost savings for the Station. During this two year period, approximately 3923 tons of asphalt and concrete was collected and recycled locally, over 1000 tons of trees, leaves and grass clippings were composted on site, 40 tons of tires were collected and converted to energy at an incineration facility, and 2282 tons of saleable recyclable materials (aluminum cans, scrap metal, office paper, cardboard, etc.) were collected and sold to local recyclers at a profit of \$115,222.



Accomplishments

Material Recovery Station

For many years, the NAVAIRENGSTA Public Works Department operated a trash transfer station, which received bulky waste and construction and demolition waste generated throughout the Station. Periodically, this waste was loaded into 30 cubic yard dumpsters and landfilled. Review of this waste stream revealed that recyclable materials such as wood, cardboard and scrap metal made up a large portion of the waste. The Public Works Environmental Branch initiated the in-house design of the Material Recovery Station in FY96 to facilitate recycling of these materials. A contract was awarded in September 1997 and construction was completed in the spring of 1998. The facility consists of a ramp leading to 10 clearly marked dumpster stations. The materials separated at each station include wood, ferrous scrap metal, non-ferrous scrap metal, cardboard, asphalt and concrete. The facility has proven to be a huge success since its opening in June of 1998. The volume of bulky waste landfilled has been reduced dramatically and the Station has realized significant cost avoidance savings from not having to pay tipping fees for



disposal of scrap metal, wood and cardboard, which are now sent to local recyclers. In addition, County Solid Waste and Recycling officials who recently toured the facility were impressed and praised the Station for our proactive approach to recycling and solid waste management.

MWR Recycling Program

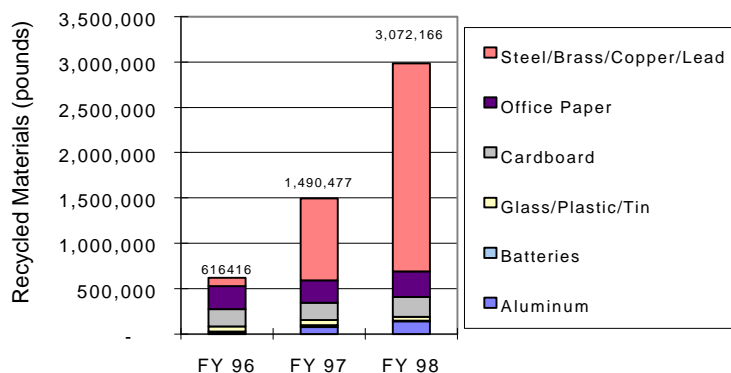


New Recycling Building

In August of 1998, the MWR Recycling Program moved into their new recycling building. In an effort to integrate solid waste management, recycling and pollution prevention at the Station, the new facility was located directly across from the new Material Recovery Station and adjacent to the Station's Hazardous Waste Transfer Facility. By consolidating all recycling, solid waste, and hazardous waste at one location, the Station can now collect, source separate and recycle all waste materials in the most efficient manner possible.

During the FY97-98 period, the MWR Recycling Program has achieved unmatched success in increasing the volume of recyclable materials collected. By initiating numerous Station cleanup projects, such as recycling of scrap cable

and old steam boilers, the program's dedicated staff has been able to dramatically increase their recycling weight totals. As can be seen from the graph, the total recyclable materials collected have doubled for each of the past two years. In fact, for FY98 over 3,000,000 pounds of recyclable material was collected, representing a **500 percent increase from the FY96 period.**



Recycling of Construction and Demolition Waste

Construction and Demolition (C&D) waste represents a significant portion of the solid waste generated at Navy Lakehurst. During the FY97-98 period, the Environmental Branch ensured that this waste stream was recycled by requiring all construction contractors to prepare a solid waste management plan that addresses recycling and requires all of these wastes to be recycled to the maximum extent possible. In addition, asphalt and concrete were recycled for all Station paving and construction projects and weight receipts were used to record and monitor progress. Over the FY97-98 period, approximately 3,923 tons of asphalt and concrete were recycled. Because local recyclers charge far less than the landfill to accept these materials, a substantial cost savings was realized.

Composting Operations

The Public Works Department Transportation Division composts organic material such as leaves, grass clippings, trees and shrubs. All organic matter generated by contractors and Station personnel is staged in a drop off area for processing into topsoil. Trees, stumps and bushes are shredded using a drum chopper and mixed with leaves, grass clippings and sand. After decomposition, this mixture is used as topsoil for various Station projects. During the FY97-98 period, it is estimated that 1,100 tons of organic material was converted to topsoil. In addition to providing free topsoil for

landscaping, the composting operation also resulted in a cost avoidance since these materials were not landfilled.

Education and Outreach

Adopt-A-School

The Station's Adopt-A-School Program integrates education and community relations. Through this outreach program, the Station educates students and parents regarding community environmental concerns. Members of the Environmental Branch visit the Manchester High School and Lakehurst Elementary School on an annual basis to discuss numerous environmental topics. Solid waste management practices including source reduction, recycling, and the purchase of recycled products is a key topic in this program.

On-Base Training Program

To increase environmental awareness at Navy Lakehurst, MWR conducts a mandatory training session for all new military personnel. The training covers all aspects of the MWR Recycling Program including the types of materials collected, sorting and handling procedures, and mechanical equipment processing. In addition, MWR conducts frequent tours of the recycling facility for the civilian population at the Station.

NAVAIRENGSTA Recycling Web Page

The Environmental Branch publishes an environmental web site (www.lakehurst.navy.mil/envir/envir.html) that includes a page for recycling at NAVAIRENGSTA. In addition to providing news on Station recycling projects and recycling rates, the site also contains a useful disposal guide to inform all Navy Lakehurst employees of the most safe, cost-effective and environmentally responsible way to dispose of/recycle excess material at the Station.

Reductions Achieved

It is estimated that 7,743 tons of recyclable material equaling **61 percent of Navy Lakehurst's total waste stream** was diverted from landfill disposal during the FY97-98 period. This achievement was made possible by the numerous recycling efforts initiated by the Environmental Branch such as centralization of recycling efforts at the new facilities, recycling of construction waste, and composting of organic waste in conjunction with the outstanding efforts of the MWR Recycling Program.

Method of Measurement

The estimated total for recyclable materials was based on weight receipts obtained by MWR Recycling for all saleable recyclable materials and recyclables generated at the Material Recovery Station, trip tickets received for all recycled asphalt and concrete, and estimated quantities for the amount of material processed at the Station's Composting Facility. The estimated total for solid waste landfilled by the Station was calculated based on actual landfill receipts obtained from the Station's Refuse Contract as well as calculations based on published data for the conversion of volume to weight for various types of solid waste.

Cost Savings

The total recycling cost savings at Navy Lakehurst for the FY97-98 period is estimated at \$473,828. These savings were realized through a combination of revenue generated by the sale of recycled material (\$115,222), and cost avoidance savings (\$358,606) resulting from the elimination of landfill tipping fees. In both cases, the actual savings reflect the savings achieved after subtracting all expenses incurred.